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REMARKS

Claims 1-22 are pending, with claims 1, 10, 17, 19, and 21 being independent. Claim 2 has been amended. No new matter has been added. Reconsideration and allowance of the above-referenced application are respectfully requested.

Interview Summary

Examiner Adhami is thanked for the interview, which was conducted with Applicants' representative, Mr. Hunter, on October 11, 2005. During the interview, claim 1, Figure 4 and the Pieda reference (US 6,882,627) were discussed. The principal argument presented was that Pieda neither teaches nor suggests the use of a detour node in finding an alternate path through a network, as claimed. No agreement reached.

Rejections

Claim 2 stands rejected under 35 U.S.C. 112, 2nd paragraph, as allegedly being indefinite. Claims 1-3 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Pieda (US 6,882,627). Claims 4-7, 10, 11, 13, 17 and 18 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Pieda in view of Rhodes (US 2002/0172157). Claims 8, 9 and 12 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Pieda in view of Rhodes, and further in view

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of Graves (US 2002/0191250). Claims 14 and 15 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Pieda in view of Rhodes, and further in view of Scott (US 6,816,464). Claims 19 and 21 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Pieda in view of Rhodes and further in view of Hultgren (US 6,134,589). Claims 20 and 22 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Pieda in view of Rhodes and Hultgren, and further in view of Graves. These contentions are respectfully traversed.

Pieda describes systems and techniques by which multiple paths through a network (which is represented by a network topology) can be selected while taking into account shared risk between network resources. A first path through the network topology from a source node to a destination node is identified. Then, if a shared risk group includes any of the network resources in the identified first path, the network topology is transformed into a virtual topology (which discourages the use of network resources in the shared risk group), and a second path through the virtual topology is identified from the source node to the destination. (See Pieda at Abstract, and col. 5, lines 40-55.) Thus, Pieda describes discovery of an alternate path through a network by modification

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of a network topology representing that network, and then rerunning a path discovery procedure using the transformed network topology.

In contrast, the present application describes deriving an alternate path through a network from existing, known paths through the network, such as those generated by an existing dynamic routing protocol. (See Present Application at ¶ 19.) Thus, an alternate path from a source node A to a destination node B (an alternate to a known path A->B) can be found by identifying a detour path that goes to a detour node C, where at least one known path (A->C) exists from A to C, and at least one known path (C->B) exists from C to B. (See Present Application at ¶ 34.)

With respect to independent claim 1, Pleda neither teaches nor suggests the use of a detour node as claimed. Claim 1 recites:

identifying a current path comprising current segments in a packet-switched network for traffic traveling from a source node to a destination node;

identifying a detour path comprising a first path from the source node to a detour node and a second path from the detour node to the destination node; and

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converting the detour path into an alternate path  
comprising alternate segments for sending traffic from  
the source node to the destination node if the current  
path includes at least one current segment that will  
be different from the alternate segments.

(Emphasis added.) The Official Action asserts that Pieda describes identifying a detour path comprising a first path and a second path, but fails to address the remaining portion of this claim element: identifying a detour path comprising a first path from the source node to a detour node and a second path from the detour node to the destination node. The term "path" is explicitly defined in the present application as a network route between two network nodes, which includes all segments taken between the two network nodes. (See the present application at ¶ 16). The term "detour node" is clearly used to indicate a node for which at least one known path (A->C) exists from the source node (A) to the detour node (C), and at least one known path (C->B) exists from the detour node (C) to the destination node (B). (See the present application at ¶ 34).

Pieda fails to describe identification of a detour path or use of a detour node, as claimed, in view of the use of these terms in the specification. Neither Rhodes, Graves, Scott, nor Hultgren cure the deficiencies of Pieda. Independent claim 17

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includes similar limitations to that of claim 1. Thus, independent claims 1 and 17 should be in condition for allowance. Dependent claims 2-9 and 18 are patentable based on the above arguments and the additional recitations they contain.

Claim 2 stands rejected under 35 U.S.C. 112, 2nd ¶, as allegedly being indefinite. However, when the detour path (A->C->B) is first identified, this path may in fact go through the destination node B on its way to the detour node C, since the described systems and techniques do not exclude the possibility that the first path (A->C) passes through the destination node B. For example, the detour path could be composed of a first path A-X-Y-B-G-C and a second path C-G-B; note that such a detour path (A-X-Y-B-G-C-G-B) would not be converted into an alternate path when a current path (A-X-Y-B) is a sub-path of the first path (A-X-Y-B-G-C).

Nonetheless, claim 2 has been amended to clarify and broaden the claim in view of the specification. Claim 2 now includes, "wherein the sub-path determining excludes end nodes and repeated intermediate nodes from consideration." Support for this amendment can be found in the present specification in paragraphs 38, 39, 63 and 64. In view of the above remarks and amendment, withdrawal of the 112 rejection of claim 2 is respectfully requested.

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In addition, claim 2 is not anticipated by Pieda. Pieda does not describe converting a detour path into an alternate path, nor does Pieda describe doing so by comparing segments of a current path and a detour path and determining a sub-path relationship between a current path and a detour path, as claimed. Rather, Pieda describes determining a primary path through a network using a network topology, and then determining a non-primary path through the network using a transformed, virtual topology. (See Pieda at col. 5, lines 40-55.)

The cited portion of Pieda describes a technique of determining necessary and unnecessary common links in the primary and non-primary paths for "path coalescence".

(See Pieda at col. 7, line 63 to col. 8, line 16.) This technique in Pieda involves combining the links of the determined primary and non-primary paths, removing the common opposite direction links of the set, and then forming a first path of these links from source to destination, such that the remaining links form a second path from source to destination. (See Pieda at col. 7, lines 4-16.) Thus, this technique does not involve looking for a sub-path relationship between a current path and a detour path in order to determine whether to convert the detour path into an alternate path for the current path. Therefore, dependent claim 2 should be allowable.

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With respect to claim 3, Pieda does not describe converting a detour path into an alternate path by concatenating a first and second path. Moreover, the cited portion of Pieda (col. 10, lines 7-12) does not describe concatenation, and is unrelated to the claimed subject matter. This cited portion of Pieda is part of Pieda's claim 4 and covers a method of topology transformation on a network topology, which occurs separate from any determination of a path through a network based on the network topology. In contrast, claim 3 of the present application covers an actual determination of a network path through a network by concatenation of two known paths through the network. Therefore, dependent claim 3 should be allowable.

With respect to independent claim 10, the Official Action has restated the language of independent claim 1, not that of claim 10. Thus, the subject matter of claim 10 has not been addressed by the Office Action. In addition, the Office Action asserts that Pieda discloses a virtual private network (citing col. 2, line 22) having three or more network nodes coupled with a larger network (citing Fig. 1). This contention cannot be supported. Col. 2, line 22 of Pieda describes "a virtual topology", which is the transformed network topology used for path discovery. This is not a virtual private network as claimed. Moreover, Fig. 1 in Pieda is a pictorial example of

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shared risk hierarchical groupings. (See Pieda at col. 3, lines 33 and 62-66.) Fig. 1 of Pieda does not show three or more network nodes coupled with a larger network.

The art of record does not describe the subject matter of claim 10:

A method of managing machine communications in a virtual private network having three or more network nodes coupled with a larger network, the method comprising:

identifying current paths used by the larger network for traffic sent among the three or more network nodes;

combining the current paths using at least one detour node to derive alternate paths through the larger network;

storing values relating to one or more path attributes for each of the current paths and for each of the alternate paths;

receiving a service specification for a network communication; and

selecting one of the alternate paths for the network communication if the stored value for a current path indicates that the current path is unsuitable for the network communication.

(Emphasis added.) Thus, independent claim 10 should be in condition for allowance. Dependent claims 11-16 are patentable



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based on the above arguments and the additional recitations they contain.

For example, claim 14 recites, "comparing the service specification with exponential averages of jitter and latency for the one of the current paths." (Emphasis added.) The Office Action fails to address this feature of the claimed subject matter by simply disregarding the word "exponential". This aspect of the invention is clearly described in the specification, for example, at paragraph 75. Therefore, claim 14 should be allowable.

With respect to claim 15, the cited portion of Scott (col. 1, lines 26-28) merely defines latency and jitter, and does not describe the subject matter of claim 15: "the exponential averages vary with an indication of length for the network communication included in the service specification." This aspect of the invention is clearly described in the specification, for example, at paragraph 84. Therefore, claim 15 should be allowable.

With respect to independent claims 19 and 21, the Official Action has improperly restated the claim language, effectively disregarding and ignoring some of the limitations of the claims. Thus, the subject matter of claims 19 and 21 has not been addressed in the Office Action.

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The art of record does not describe the subject matter of independent claim 19:

three or more separate networks;

three or more nodes each respectively coupled with the three or more separate networks, and with a connecting network, which enables machine communications to pass among the three or more separate networks via the three or more nodes;

means for identifying current paths for the machine communications passing through the connecting network;

means for combining the current paths to derive alternate paths through the connecting network;

means for storing values for one or more path attributes for each of the current paths and for each of the alternate paths;

means for receiving a service specification for a machine communication; and

means for selecting one of the alternate paths for the machine communication if the stored value for one of the current paths is insufficient for the service specification.

(Emphasis added.) Thus, independent claim 19 should be in condition for allowance. Dependent claim 20 is patentable based

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on the above arguments and the additional recitations it contains.

The art of record does not describe the subject matter of independent claim 21:

three or more separate networks;

three or more nodes coupled with the three or more separate networks respectively, and with a connecting network, which enables machine communications to pass among the three or more separate networks via the three or more nodes;

a traffic management server coupled with a network and in machine communication with the three or more nodes, the traffic management server configured to combine current paths for the machine communications to derive alternate paths through the connecting network, and maintain a data structure to store values for one or more path attributes for each of the current paths and for each of the alternate paths to be used in selectively routing machine communications among the three or more nodes.

(Emphasis added.) Thus, independent claim 21 should be in condition for allowance. Dependent claim 22 is patentable based on the above arguments and the additional recitations it contains.

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In addition to the reasons addressed above, each of claims 4-22 are also patentable because the various proposed combinations of references fail to meet the Patent Office's initial burden. To establish a prima facie case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the combined prior art references must teach or suggest all the claim limitations. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure." (See MPEP 706.02(j), citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); emphasis added.) The current 103 rejections fail to meet this standard. Thus, the 103 rejections of the claims should be withdrawn.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue or comment does not signify agreement with or concession of that issue or comment. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed.

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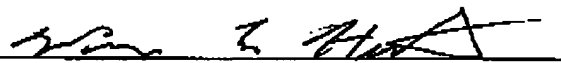
Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that the current rejections are overcome, that none of the cited art teaches or suggests the features which are claimed, and therefore that all of these claims should be in condition for allowance. A formal notice of allowance is thus respectfully requested.

Please apply any necessary charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: Oct. 12, 2005

  
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